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— Mohan Dhari

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—Mathew George

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—Cee Pee

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MARCH - APRIL 1978

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Chief Editor
K. G. NAYAR

Editor
C. P. SALEEM

CARDAMOM BOARD
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CARDAMOM

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Editorial

RESEARCH PROGRAMMES OF CARDAMOM BOARD

The cultivation of Cardamom in the country at present is faced with numerous problems like change in ecology of cardamom tracts as a result of large scale deforestation of Western Ghats, aberrations in climate, intense drought and attack of various pests and diseases. The competition to Indian Cardamom in the world market from other Cardamom producing countries should also be taken into consideration when evaluating the present position of the Cardamom plantation industry in the country. It is therefore, quite evident that the well-being of the Cardamom plantation industry as an important foreign exchange earner can be guaranteed only by production gains and quality improvement through adequate and sustained research in the different directions of plant improvement, control of pests and diseases, manurial trials and fertiliser recommendations, shade, soil and water management, preservation of colour and aroma in curing and storage, development of new end products like oil and oleoresins, finding of alternate uses for cardamom and products derived therefrom.

It will be a happy news to all those who are connected with Cardamom industry that the Board's effort to have a research department under it is going to fruit.

One main research station in Idukki District having an attached experimental farm of about 100 acres in extent and two sub-stations one in Tamilnadu and another in Karnataka State each having an attached farm of about 50 acres in extent will be started soon. The estate for the main research station has been already selected.

Under the research wing there will be five major disciplines, namely, Botany, Soils and Agronomy, Plant Pathology, Entomology and Economics and Statistics.

Since the ultimate aim of agricultural research is maximisation of production, the Board's adaptive research projects are aimed at evolving agro-techniques involving agronomic practices, manurial schedules and pests and disease management programmes suited to different agro-climatic zones to achieve the objective of maximisation of production. The experimental farms attached to the research stations will serve as a guide to the planters in the respective areas and will be a vital link between research and plantations. □

INGREDIENTS OF INDIA'S NEW EXPORT POLICY

MOHAN DHARIA
Union Minister for Commerce, Civil Supplies and Co-operation.

Achievement of full employment of our precious human resources as rapidly as possible and attainment of economic self - reliance constitute the major objectives of our Government's economic policies and programmes. Growth in exports is, therefore, necessary and desirable because it is only by generating the necessary foreign exchange through growing exports that we can buy many vital commodities and inputs which are essential for the development of various sectors of the economy.

While we recognise fully this important role of exports, we have categorically renounced the so-called strategy of the "export-led" growth. The basic elements of our new approach are the following. First, our emphasis will be to shift our export - mix towards the dynamic sectors, in which we have long-term competitive advantage and where the export growth can be sustained without the help of artificial crutches. These leading sectors of export expansion are engineering goods, chemicals, leather manufactures, ready-made garments, handicraft products, technology - intensive products like consultancy and engineering services and project exports.

Second, in regard to traditional exports, our objective will be to increase the productivity and to diversify the commodity mix so that we maximise the domestic value-added. This process is already under way in certain sectors. For instance, we are shifting away from exports of raw hides and skins to finished leather and leather manufactures. We would be exporting progressively larger amounts of packet and bagged tea rather than bulk tea. Similarly, our effort will be to increase domestic value-added in the exports of renewable natural resources, like marine products and forestry products and depletable mineral resources like iron ore. This element of the new exports strategy would maximise the social benefits of exports through increasing employment.

Third, our strategy will be governed by the objective of minimising social costs of our exports by regulating the exports of essential mass consumption items. In the case of items like oilseeds, pulses, tea, vegetables and onions, domestic requirements will always take precedence over exports, and exports will not be allowed to have adverse effects on the domestic availability or price. Fourth, we would strive to increase the bargaining power of our exporters through the support of State trading organisations and other infrastructural support in terms of better international marketing and information system.

The basic aim of our new export policy package is that it shall contribute to deploy our abundant resources at a higher level of utilisation as well as with greater efficiency. This strategy would increase direct and indirect employment opportunities for skilled as well as unskilled labour in sectors, such as, textiles, handicrafts, handlooms, leather manufactures, metal-based industries, engineering and consultancy services. At the same time, there will be no exports for export's sake and the social costs of the export generation and expansion would be kept to the minimum.

Our national export policy has necessarily to be viewed in the context of the international trading environment. Current developments in the world trade are a cause of great concern to us.

The developed countries are moving rapidly towards protectionist trade regimes. They have even resorted to unilateral and unjustified actions which have given a serious setback to the process of liberalisation of international trade.

Our endeavour will be to resist these tendencies in concert with

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other developing countries in the international forums, such as, GATT, MINS and UNCTAD. It is only through unity and solidarity of the developing countries as a whole that we can expect the international community to realise the urgency of restructuring the existing international economic order. Along with other developing countries,we would like to participate in the international division of labour that would benefit all the nations.

But this has to be a two-way process. The developed countries cannot expect us to continue to expand our imports of key industrial commodities from them if they continue to build protectionist walls around their economies. While it would be our effort to make the developed countries realise the common benefit arising from liberal international trading environment, we would also like to increase the inter-developing countries' trade. Collective self-reliance alone would, in the long run, provide an effective solution to the challenges faced by the developing world.

In comparison to 1976, in real terms, the rate of growth in the world trade in 1977 has shown considerable decline. While in the year 1976, world trade grew at 11 per cent, according to the latest estimates, this growth rate has come down to 5 to 7 percent. If one excludes oil exports from the total world trade, the estimate is that, in real terms, the rate of growth in world trade may have come down to just about 4 per cent. When one compares the rate of growth in value terms, India's performance in exports compares favourably with the trends in the world trade. Indeed, the rate of growth in India's exports in the year has been of the order of 11 per cent. Our exports during the year continue to register substantial increase in spite of the fact that the exports of a large number of mass consumption goods have been either banned or severely curtailed.

The previous Government had allowed large quantities of mass consumption items to be exported in the year 1976 – 77. For example, exports of sugar, fresh vegetables, vegetable oil, groundnut and extractions, rice, pulses and cement alone accounted for more than Rs. 500/-crores. We have consciously regulated the exports of these commodities in order to subserve the interests of domestic consumers and the effect of this policy has been that the exports of these items did not go beyond Rs. 100 crores as the data for the first half of the current year show. If policies insensitive to common man were to be pursued, needless to say, exports could have been much higher. Clearly, we do not want such an export growth.

At the same time, the exports of certain important items have gone up to such an extent that it has been possible to compensate completely the loss in other sectors. A comparison of the export performance during April-September 1976 and April - September 1977 shows that during this period, exports of mill-made cotton textiles had gone up from Rs. 154.70 crores to Rs. 181.02 crores, art - silk from Rs. 12.15 crores to Rs. 17.68 crores, and jute goods from Rs. 81.27 crores to Rs. 85.98 crores. The exports of handicrafts, wool and wool products, chemicals and allied products, tea, tobacco, coffee and cashewnuts have also gone up sharply. The export growth in gem and jewellery was more than 200 per cent during this period.

Exports of engineering goods during the first seven months of the year have gone up to Rs. 333.68 crores from Rs. 279.38 crores during the corresponding period of the preceding year We have also been able to secure large value contracts during the current financial year which included supply and erection of transmission line towers in Iran valued at Rs. 21 crores, construction of houses and hospitals in Libya worth Rs. 100 crores, construction of a dam in Libya worth Rs. 72 crores, supply and erection and commissioning of diesel power generating sets in Saudi Arabia worth Rs. 66 crores and supply and erection of a sugar plant in Tanzania worth Rs. 30 crores.

While the dynamic sectors of export growth are thus being fully exploited, exports of several mass consumption items, like potatoes, fresh vegetables, onions, salt, milk in various forms, etc. have either been banned or regulated. The exports of HPS groundnuts have also been banned to check the rising prices in the domestic market. Similarly 50,000 tonnes of sugar from the export stocks of STC has been released for sale in the country to reduce the domestic price of sugar, Export of cement has been drastically regulated to increase availability of cement within the country. Exports of cotton yarn were banned to increase the domestic availability for hand-

loom and powerloom weavers. Exports of soft - wood and teak wood in long form have been banned to encourage exports of value-added items

The new policy of protecting the interests of the common man while promoting exports has been manifest in the measures recently adopted regarding domestic and overseas sales of tea. A major foreign exchange earner for the country, the tea industry witnessed an unusual phenomenon of escalating tea prices in the early part of 1977. The new Government stepped in immediately and imposed an export duty of Rs. 5/- per kg. in order to stall the rising trend in the prices of tea in the domestic market. Simultaneously,duty drawback on exports of loose tea was withdrawn. It was also decided that exports of tea be restricted to 225 million kgs. in 1977 - 78 as compared to 240 million kgs in 1976-77. These measures were further supplemented through the operations of the National Agricultural Co-operative Marketing Federation and the National Consumers Co - operative Federation to sell loose tea in the domestic market at reduced rates through a number of retail outlets and consumer stores

Side by side with the measures taken to make tea cheaper within the country, Government also took steps to increase tea production in the country and realise higher unit value for the exports. Production of tea during 1977 (up to November) touched a record figure of 540.70 million kgs. and is expected to rise to 560 million kgs. as compared to 512 million kgs. last year. By the end of November 1977, we have exported 150.36 million kgs. of tea valued at Rs. 399 26 crores as compared to 151 85millionkgs.exported during the corresponding period of last year valued at Rs. 180.71 crores. We have been able to secure a steep rise in the unit price of tea from Rs. 11.90 per kg. last year to Rs 26.55 per kg this year. Value-added items like packet tea, tea bags and instant tea are generating more employment in the country and in these items, we have reached higher export earnings of Rs. 17.78 crores for April - October 1977 as compared to Rs. 12.78 crores during the corresponding period last year.

These measures on the national front in respect of commodities of export interest to us, are being supplemented through initiatives in the international forums. Under the Integrated Programme for Commodities adopted at UNCTAD-IV in 1976, preparatory meetings have been organised, among others, for jute, tea and coir. The objective of the meetings is to reach international commodity agreements which will stabilise the markets for these commodities at prices that are remunerative to producers and just to consumers.

In regard to sugar, an international agreement has recently been finalised, which aims at stabilisation of international sugar market at prices ranging between 11 cents to 21 cents per lb. The minimum agreed prices of 11 cents compares very favourably with the abnormally low price which is currently prevailing in the international market. Under the agreement, India has also been assured a fairly large export quota of sugar i. e. 8.25 lakh tonnes per year.

International trade in textiles has recently wrtnessed the most severe protectionist pressures from the developed importing countries. Export of garments, particularly those made out of handloom fabrics, had experienced unprecedented surge in the European market, combined with this surge in exports led the European Community to impose unilateral restraints on exports from developing countries, including India.

Under the circumstances, the Multi-Fibre Arrangement, which was agreed upon between the importers and exporters in 1973 to facilitate an orderly international trade in textiles and progressive restructuring of the world textile industry came under severe strain This arrangement specifically excludes handloom fabrics, made-ups and products from the application of restraints The exclusion of handloom products was at India's behest and in recognition of the vital role of the handloom sector in India. With the renewal of the MFA in doubt, there was a serious danger to the principle of exclusion of handloom products from restraints being abandoned altogether.

It has, however been possible to secure the renewal of MFA for a further period of four years. The developing countries have been able to stave off substantial dilution of the basic principles of MFA, including the exclusion of handloom products. In our bilateral agreements with important trading partners like EEC and USA, the quota secured for majo

export items are substantially higher than our past performance. In the case of EEC, the new quota for shirts and blouses will be about 530 lakh pieces as against 400 lakh pieces available under the last agreement. In the case of USA also the quota in 1978 for apparel and made-ups will be 18.62 crore square yards as compared to our exports of worth 11.87 crore square yards in 1976-77.

In the procedures of import licensing, all discrimination faced by the small units has been removed by making available to them the facilities enjoyed only by large scale units in the past. Special opportunities have been provided to young entrepreneurs, unemployed youth and graduates in science and technology for innovative participation in the development of their industrial units. Equally, in regard to registered exporters and export houses, many innovations have been introduced so that the exporting community get all the facilities to make their products competitive in the overseas markets. Steps are also being taken to organise a sound and effective information system about the export market opportunities.

One of the most important instruments of ensuing growth in exports is the quality of our export products. To this end, the Export Inspection Act is being made more stringent. Government is also strengthening the inspection machinery at various levels and would encourage self-regulating mechanism amongst the exporting community. The Export Inspection Council is also being strengthened so that it could discharge its functions more effectively and adequately.

We visualise a growing and more purposeful role for the State trading organisations in regard to the country's foreign trade as well as in serving the basic objectives of the economic policies of the Government. The Indian Institute of Management, Ahmedabad, was asked to study in depth the working of the State Trading Corporation and the Minerals and Metals Trading Corporation and their subsidiaries instruments of and make recommendations in order to sharpen strategic State trading in accordance with the policy to give the public sector a leading role in our drive towards self-reliance and export expansion. Proposals are under consideration for restructuring the STC and its Subsidiaries, taking into account the recommendations contained in the IIM's interim report.

While this exercise is going on, the functioning of the STC in the last nine months has already been reoriented and it has played a major social role in importing and making available large quantities of edible oils which had been in short supply currently. During the oil year 1977 STC has arranged for imports of 7.37 lakh tonnes of edible oil, out of which 5.60 lakh tonnes have already arrived. Sale of oils to vanaspati industry and for direct consumption have been of the order of 4.59 lakh tonnes.

There is a greater thrust on the export of non canalised new product lines by STC The total turnover of these items during April-November 1977 was Rs. 160 crores against Rs.72 crores in the corresponding period of last year. The Corporation has strengthened the formation of consortia of suppliers, particularly in the small scale sector, for enhancing the exports of at number of non-canalised products by providing marketing, technical and financial assistance The main items covered under this scheme are finished leather, leather products, ready-made garments, fruit juices, footwear and army soft wear. All these items have a high value-added content besides having considerable employment potential.

The functioning of the MMTC has also been reoriented. It has established closer liaison with trade andindustry, and problems brought up by them have been followed up for remedial action. On the import side, the Corporation has pursued the policy of ensuring adequate supplies to industry at reasonable and stable prices. A major thrust of the Corporation has been in the direction of improving its customer services. In the wake of liberalised import policy, steps have been taken to augment supplies of various items imported by the Corporation.

The task of formulating and implementing the new trade policy is as complex as it is important. The Government want to give a totally new direction to this policy so that it serves the needs of the growing trade and industry, meets effectively the challenges of the changing international trading environment and renders the instrument of external trade an effective lever to realise the basic objectives of Government's economic policies and programmes. ●

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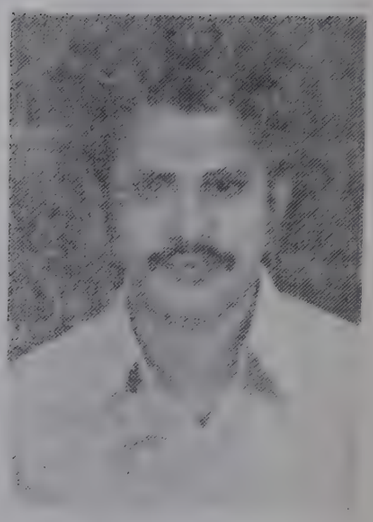
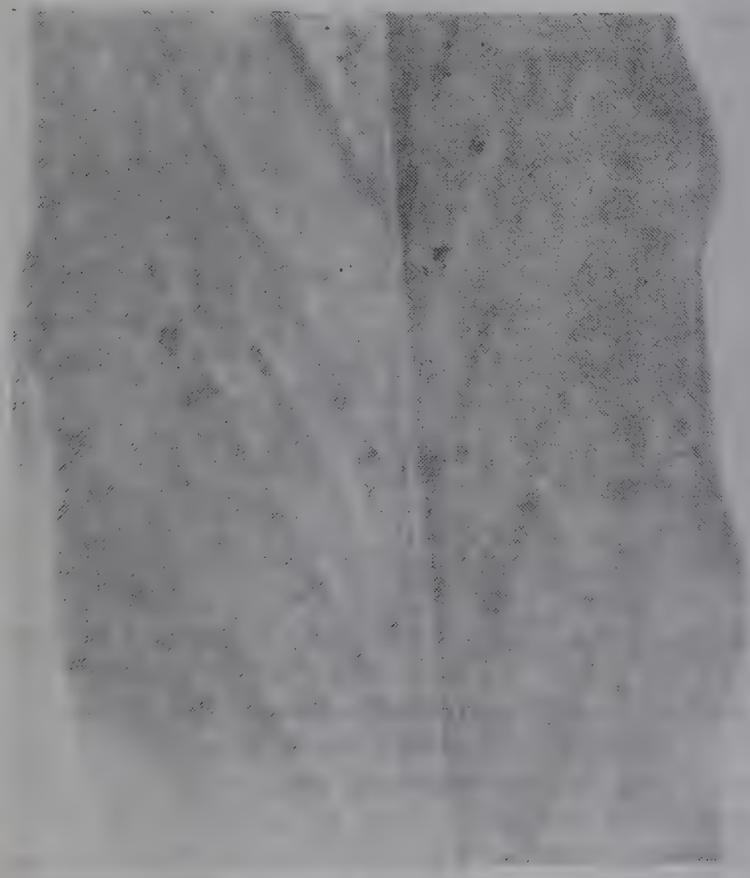


'CHENTHAL'- A THREAT TO CARDAMOM

MATHEW GEORGE*

Chenthal disease of cardamom is a growing menace and causes severe loss to the cultivator. By a casual observation the disease is found to be in occurence at a distance of over 40 kms. from Peermade to Pampadumpara in the high ranges of Kerala in varying intensities. It is difficult to assess the total area of affected plantations at present.



WATER-SOAKED LESIONS

This disease has been brought to the notice of Central plantation Crops Research Institute by a progressive planter Mr. Sajan Kurian of Kalarickal Estate in Vandanmettu. Kalarickal Estate sprawls to an area of 150 acres. As popular belief in the area goes this malady is due to supernatural powers and many a cultivator offers 'puja' to pacify the angry gods.

The initial symptom of the disease is the appearance of elongated water-soaked lesions of varying size on the abaxial surface of the young leaves. Generally, it appears first on the second leaf. First leaf is free of any spot. In a healthy plant, first leaf is tender and silky to touch. But in the diseased it is leathery. In the advanced stage the lesions are brown to dark with a pale

*Scientist, Central Plantation Crops Research Institute, Kayamkulam.

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yellow halo. They tend to develop near the leaf margin and progress towards the midrib. As the withering of leaves progresses pseudostem also wilt. New shoots emerging after the disease are very much reduced in size and contract the infection around three or four leaf stage culminating in total crop loss. Flowers set after the incidence of the disease fail to develop. Starting from the tip downwards the inflorescence dry up and the affected gardens present a burnt appearance.

A multifarious approach to unravel the mystery of this disease revealed the causative agent as bacteria. This bacterium belongs to the genus Corynebacterium. Antibiotic assays in the laboratory showed the superiority of penicillin in inhibiting the growth of this bacterium **A** seventy cent plot was selected for field trial at Vandanmettu. Badly affected shoots and leaves of cardamom clumps were removed and destroyed. Ground was cleared of weeds. Penicillin at a concentration of 100 ppm was sprayed over the foliage and inflorescence axis. Subsequently two more rounds of spray were given at an interval of 30 days. Observation taken after the sprays proved the efficacy of controlling Chenthal disease, with penicillin. One gram of penicillin dissolved in ten litres of water gives 100 ppm solution. 10 litres of solution will be required to spray about 12 plants. In India penicillin is not marketed for agricultural purposes. To ensure its availability immediate steps are being taken.

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SCATHE OF CHENTHAL

It is an age old practice in cardamom plantations to remove the senescent leaves and pseudostems This will facilitate easy growth of fresh shoots and to an extent control thrips. Cardamom clumps are usually mulched with these thrashed materials. But in chenthal affected areas this practice may be discontinued, as mulching with diseased materials will enhance the inoculum potential. Chenthal is found severe in thinly shaded areas. Regulation of shade, once in a year is advocated in cardamom plantations. Thinning out of shades render the pods more acceptable, giving it the desirable green colour. But under the present circumstance, a well experienced cardamom grower, and owner of Pampadumpara estate Mr. Bhaskar feels it appropriate not to thin out the shades.

Of all fungal diseases of cardamom, perhaps even more devastating and harsher than Katte, Chenthal demands detailed inquest in depth. A comprehensive survey to delineate the occurence and spread of Chental in other cardamom growing tracts like Nelliampathy, Aryinkavu and Mudigere is warranted. Large scale field trials with penicillin, studies on host range and survival of the pathogen are the major fields of interest envisaged in the investigation at CPCRI. Kayamkulam.

(Kerala Karshakan)

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Know Your Spices:

PEPPER

By

Cee Pee

A climbing plant with philodendron-like leaves spread in a mass of foliage with its wire - tough roots grasping the bark of the supporting tree - that is pepper plant to the common man. And the catkins of green berries hidden in the profusion of green leaves is pepper of commerce—the King of Spices—to the spice consumers the world over. It is prepared from the small round berries of a vigorous growing vine of the humid tropical regions-especially the damp jungles of Malabar Coast. It belongs to the Piper nigrum family and requires fairly high humidity and warmth and an annual rainfall of over 120 cm. for its successful culture. It grows very well from almost sea level to an elevation of about 1500 metre above mean sea level. Seasonal conditions as normally prevailing in the South - West India, namely a fairly long spell of dry weather followed by heavy showers as is received in the South West Monsoon and some rainfall in the North East Monsoon are considered essential for the successful cultivation of pepper.

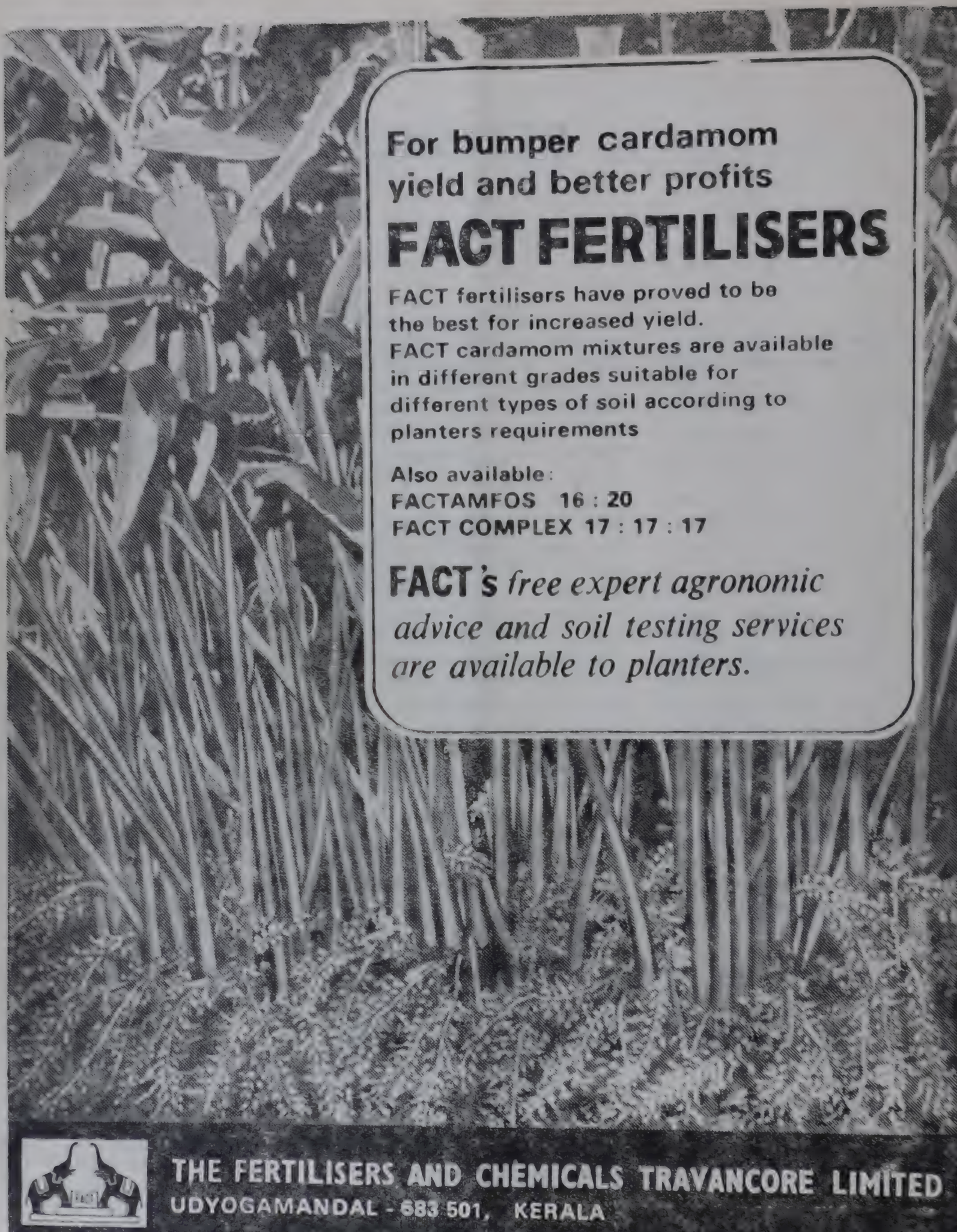
Over 3000 years ago references to pepper were made in India in the ancient Sanskrit medical literature Pepper was one of the earliest articles of commerce between the Orient and Europe. Under Emperor Marcus Aurelius this trade had increased to such a degree that in AD 176 the Romans imposed a customs duty in Alexandria on long pepper and white pepper. In the Middle Ages rents, dowries and taxes were frequently paid in pepper and some European landlords preferred to receive their rental payments in the form of scarce high priced pepper corns rather than money. By Shakespeares time the pungency of pepper was well known in England and there is a marked reference about pepper in his famous Comedy 'Twelfth Night'. During the middle ages the cities of Alexandria, Geneva and Venice owed their economic prosperity to the brisk trade in spices.

The basic need for spices led to Vasco De Gama's search for and discovery of a sea route to India in 1498. During seventeenth century the monopoly shifted from Portugal to Holland. By the time London became the world's spice centre in the nineteenth century increased production had brought the price of spices down thus increasing consumption. The collapse of Dutch East India Company coincided with the entrance of the United States into Far Eastern Spice Trade.

Indian export trade in pepper is one of the oldest. One can trace the history of business in pepper to at least a thousand years. India, Malaysia, Indonesia and Brazil are the major producers and exporters of pepper with the latter three countries supplying both the black and white varieties. Among the various minor producers the most significant is Madagascar. It was only after the World War II that India emerged as the major pepper exporting country. During this period India had only a negligible share of world market due to the predominance of Indonesia. However, the destruction of many of the pepper gardens in Indonesia by the Japanese led to India's predominance in the field. Since then India has established her position in the world markets by supplying 35000 tons a year. which works out to more than 35 per cent of the world's production.

The bulk of India's pepper exports goes to the socialist countries of Eastern Europe under bilateral agreements Popper shipped to these countries is delivered against payment in rupees and commands a premium.

Pepper being a vine requires some strong support for it to climb and grow. Murikku (Erythrina Indica) is considered the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best standard for pepper for large scale plantations. It also grows well on trees of Mango, Jack, Silk, Cotton etc. For starting new plantations the land is cleared of most trees and scrub jungle growth. The soil best suited for pepper is friable, gravelly loam of good depth and with high humus content, fertility and excellent drainage. In March April standards of Murikku are planted in pits. During the second fortnight of June pepper cuttings are planted to the standards. In August-September a light digging is given round the standards and vine to remove weed growth and the young vines are tied to the standards. The cultural and other operation for the plantations from the 4th year consist of giving two diggings a year in August–September; and October - November, lopping the branches of standards and tying the vines to the standards periodically. The following manuring pattern is considered suitable to increase yield of pepper.

I About 10 kgs. of well rotten cattle manure or compost per vine annually to be applied before South West Monsoon.

II. 100 gms, of Muriate of Potash.

III. 500 gms. of Ammonium Sulphate.

IV. 1 kg. of Super Phosphate.

V. 500 gms. of slaked lime in alternate years.

The organic manure should be applied in May and inorganic fertilizers in August - September.

Propagation is usually carried out by cuttings, selected from the upper portion of young, vigorous high yielding, healthy vines. The important varieties cultivated in Kerala are Kallu Vally, Balankotta, Karimunda, Cheriyakaniyakkadan, Kottanadan, Chola and Panniyoor–1. Panniyoor-1 hybrid pepper is evolved by crossing two local varieties - Uthirankotta and Cheriya Kaniyakkadan. It gives almost two to four times yield of the best local varieties. The vines start yielding in the third year of planting. The harvest season is from November to February in the plains and from January to March in hilly regions. The spikes are gathered singly by hand and the berries are dried in hot sun. Under favourable conditions, the vines yield productively for fifteen to twenty years. A fully grown well - developed mature vine will yield approximately 4 to 5 pounds of dried berries and a satisfactory yield per acre in full production would be around 10000 pounds of green berries, that is, 2800 pounds of dried pepper. Wilt is the important disease of pepper which can be controlled by spraying one per cent Bordeaux mixture. Another factor affecting production of pepper is Pollu (Hollowberry) caused by flea beetle.

Kerala has 2 24 lakh acres under pepper and accounts for 97 per cent of the aggregate production in India. Kerala has a virtual monopoly in this commodity, the remaining three per cent being shared by Tamilnadu and Karnataka.

Many types of both black pepper and white pepper are recognised in the spice trade. Those are usually identified by the ports from which the goods are exported or the region where it is grown. Thus, 'Malabar' is a highly aromatic type of black pepper from South Western India including Alleppey District and the Southern Malabar coast. Other leading black peppers are the 'Tellicherry', from the North Malabar coast traditionally the highest priced of the black peppers The mild flavoured 'Saravak' and 'Brazilian' are some of the other varieties of black pepper.

The United States is the largest consumer of pepper followed by Soviet Union, West Germany, France and United Kingdom. The biggest importer of Indian pepper is Soviet Union buying over 10000 tons annually followed by United States purchasing over 3000 tons. India's consumption of pepper is estimated to be between 10000 and 12000 tons every year. Black pepper characterized by a penetrating odour and extremely pungent flavour is preferred in the United States. Mild flavoured white pepper (it is produced from fully ripened berries, which are packed in sacks and soaked in slow-flowing water for about 8 days. These are then trampled on or macerated to rub off the outer hull. The gray pepper corns are washed and dried in the sun for several days until they turn creamy white to become the white pepper of commerce) is generally consumed in Europe

The usage pattern for pepper is fairly well established. In the industrialised countries with market economies and in the socialist countries of Eastern Europe, the food industries and in particular their meat sectors

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are the biggest users of pepper. The food industry of United Kingdom and the United States absorb sizeable amounts of pepper oleoresins while other countries prefer ground pepper for sausage making. Much of the pepper consumed in the household sector in Western European countries is unground or ground white pepper. Recently dehydrated green pepper has been introduced into the world market by India. Pepper was formerly used in medicine as a stimulant, carminative and as a cure for diarrhea, cholera and arthritis. It is also used in table sauces, canned meats etc.

An FAO study reveals that there will be a possible 3.6 per cent rise in the annual pepper imports to 10 major country markets—Argentina, Canada, Federal Republic of Germany, France, Italy, Japan, Moscow, Netherlands, United Kingdom and U.S.A. If the potential for increased pepper consumption in the socialist countriss of Eastern Europe and the Middle East countries is added to this estimate it seems reasonable to assume an overall 4 per cent annul increase in future world demand for pepper. Thus global imports of pepper would rise to some 120,000 tons a year by 1980 compared with around 95000 tons in 1974. In view of this projection there is an obvious need for pepper producing countries to expand their export capacity to meet this increased demand.

Referenec: *Book of Spices.*
Spices: A Survey of the World Market
Indian Spices Bulletin.

Biggest Apricot Producers

Spain, United States, Italy, France and Turkey are the biggest apricot producers In the world. Apricot yields are not very regular, the differences from year to year being rather large. But each of the above mentioned countries produces in most years more than 1,00,000 tons. Spain was the largest producer in 1975 with 2,06,000 tons. Turkey was second with 1,20,000 tons. The biggest crop of apricots in USA was harvested in 1971, it amounted to 1,70,000 tons. France produced 1,50,000 tons in 1974 and Italy 1,12,000 tons.

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Production & Exports

PRODUCTION:

A revised estimate of production of cardamom for the current season (1977-78) is placed at 3800 M. T. with state-wise break up as follows:

State	Production (M. T.)
Kerala	2800
Tamilnadu	300
Karnataka	700
Total:	3800

SALES AND WEIGHTED AVERAGE PRICES AT AUCTIONS:

State-wise auction sales and average prices of cardamom during the current season compared to last season are given below. The figures relate to the period August - February only.

STATE	February 1978 Sales [MT]	February 1978 Av. Price [Rs/Kg]	February 1977 Sales [MT]	February 1977 Av. Price [Rs/Kg.]	Aug-Feb 1978 Sales [MT]	Aug-Feb 1978 Av. Price Rs/Kg.]	Aug-Feb 1977 Sales [MT]	Aug-Feb 1977 Av. Price [Rs/Kg]
Kerala	48	124.79	—	—	2038	142.24	723	168.61
Tamilnadu	13	110.50	3	155.03	111	113.80	65	157.30
Karnataka	26	108.73	20	145.03	416	103.15	297	149.62
Total :	87	117.84	23	146.51	2565	134.68	1085	162.51

The total sales through auction during the current year [August February only) was 2565 M. T. against 1085 M. T. sold during the same period of last year. The total production during last year was only 2400 M. T. on account of the severe drought conditions in the producing areas, while the production for the current season is estimated as 3800 M.T. Moreover, last year there was no regular auction after 12th January consequent on the standstill position of the cardamom trade following the imposition of export duty at the high rate of Rs. 50 / per kg. on 12-1-1977. The maximum quantity sold through auction in the past years during the period August - February was only 2386 M. T. duting 1971-72 when the production was 3785 M. T. But during the current year with the same level of production (3800 M T.) the sales through auction has gone up 2565 M. T. during August-Febru. ary More sales through auctions means better price to the planters and this could be achieved by disseminating current and up-to date information on price to the planters and traders through Board's weekly bulltin entitled "Cardamom Auction Prices".

Out of the total auctions sales of 2565 M. T., 2038 M. T. were sold in Kerala constituting 80% and 1586 M. T. in Vandanmettu accounting for 62%. The quantity sold at the Vandanmettu / Kerala auctions are mainly for exports and hence the month - wise weighted average prices prevailed at the auction centre at Vandanmettu during the current season is given below:

Month		Weighted Average Price (Rs /kg.)
August	1977	137.14
September	1977	131.11
October	1977	143.08
November	1977	151.17
December	1977	161.53
January	1978	148.72
February	1978	133.81

It could be observed from the above figures that the average prices remained at the higher levels during October - January period when maximum quantities were sold. Though a decline of Rs. 15/ per kg. in the average prices was noticed in February 1978, it was only a temperary fall for want of buying support from the exporters. The average prices at the latest auction at Vandanmettu during March 1978 rose to Rs. 154/- per kg.

EXPORT:

Month - wise export performance of cardamom during the period April - February 1978 with comparative figures for 1976-77 is given below:

Month	1977-78			1976-77		
	Quantity [MT]	Value [Rs'000s]	U. Value [Rs /kg.]	Quantity [MT]	Value [Rs'000-]	U.Value [Rs [kg.]
April	104	20667	198.20	152	17096	112.68
May	200	87229	186.50	66	7156	108.50
June	158	28063	176.92	66	7167	108.83
July	76	12780	168.89	39	4525	114.54
August	89	15791	176.20	19	2528	134.95
September	87	14120	162.28	19	2563	135.28
October	373	61336	164.60	14	1668	121 79
November	404	68187	168 85	56	8137	145 44
December	551	99158	179.81	132	24227	184.23
January	257	46760	182.13	138	28095	202 75
February	170	29901	176.13	—	—	—
Total (April - Feb.)	2469	433992	175.76	701	103212	147.30
March	150*	24000*	160.00*	192	37102	193.17
Total:	2619	457992	174.88	893	140314	157.17

Note: *Expected

Source: Monthly returns from exporters of cardamom [Provisional].

As per provisional figures available 170 M. T. of cardamom valued at Rs. 299 lakhs have been exported during February 1978. The average export price realised during the month was Rs. 176/- per kg. Last year there was no export in February due to the standstill position in the trade consequent on the imposition of export duty at the high rate of Rs. 50/- per kg. during 12-1-1977 to 24-2-1977.

The total export of cardamom during the current financial year (April-February only) thus totalled to 2469 M. T. valued at Rs. 43 40 crores. The total export during same period of last year which was only 701 M. T. worth Rs. 10.32 crores cannot be considered for realistic comparison as last year (1976-77) was an exceptional year with production below the average level and lower exports resulting from the disturbance caused to normal trade consequent on the imposition of the high rate of export duty. But compared to the past years the export performance during the eleven month period of the current financial year has surpassed even the previous annual peak performance of 2147 M. T. during 1971 - 72 and Rs. 19.38 crores during1975-76.

We estimate a minimum export of 150 M.T. valued at Rs. 2.40 crores during March 1978. With this the ambitious export target of 2600 M. T. valued at Rs.45. crores fixed for 1977-78 financial year will be achieved. Thus we are achieving a quantum jump of about 450 M. T. quantitatively and Rs. 25 crores in terms of earnings during the current year from the previous peak performance. In other words the earnings have gone up to the level of Rs. 45 crores from the previous record of Rs. 19 crores without touching the twenties and thirties. This remarkable achtevement could be brought out only because of correct thinking and planned activities to obtain maximum results.

In contrast to the usual phenomenon of higher production followed by a severe fall in price as happened in the year 1970-71 and 1971-72, we could maintain the prices at the higher levels inspite of a good crop of 3800 M. T. during the current year. The grade - wise exports and prices for the current (1977) crop is given over leaf.

It is seen from this statement that nearly 1850 M. T. valued at Rs. 32 crores could be exported till February from current year's crop at an average price of Rs. 173/- per kg. It is also understood that Alleppey Green cardamom alone constitutes 96% of the total export from the current crop at the average price range of Rs. 185/- to Rs. 200/- for the bold grades (AGEB & AGB) and Rs. 150/- to Rs. 175/- for the relatively less superior grades (AGS, AGS 1, and AGS 2) The Coorg green and bleached cardamoms produced in Karnataka are mainly meant for internal consumption as its share in total export is very negligible (i. e. 4% only).

Out of the total production of 3800 M. T. during the current

Grade	Quantity [kgs.]	% share	Value [Rs.]	Unit value [Rs./kg.]
AGEB	154700	8%	30726381	198.62
AGB	650200	36%	119372817	183.59
AGS	706742	39%	123885136	175.27
AGS 1	218732	12%	32334783	147.83
AGS 2	7380	@	1071681	147.91
AGN	25175	1%	2541922	100.97
AGL	300	@	32597	108.66
Total :	1763329	96%	309985317	175.80
CG 2	6345	@	841780	132.67
CG 3	4592	@	603574	131.44
Total :	10937	@	1445354	132.15
BL 1	9142	@	1213913	187.48
BL 2	17650	1%	2178071	123.40
BL 3	32853	2%	3776274	114.94
BLN	3100	@	330500	106.61
Total :	62745	3%	7498758	119.51
CS 1	3150	@	422279	134.06
CS 3	1300	@	110330	84.87
Total:	4450	@	532609	119.69
Grand Total	1841461	100%	319462038	173.48

Source: Monthly returns from exporters of cardamom [Provisional]

year 1200 M T. will be required for internal consumption and the balance of 2600 M. T. exported. 2000 M. T. will be exported in the current financial year itself i. e. upto 31st March 1978 and the balance of 600 M. T. will be carried over for exports during the next off season period April-August 1978. ●

Late News

AUCTION SALES UP

270 M. T. of cardamom were sold at auctions during March 1978 of which 226 M.T. were sold at Vandanmettu alone at an average price of Rs. 145 / - per kg. The total sales through auction during the current season(August-March 1978) rose to 2835 M. T. of which 2268 M T. (Average price Rs. 142 / - per kg.) were sold in Kerala State of which 1812 M. T. (Average price Rs. 146/ - per kg.) in Vandanmettu alone accounting for 64% of total sales.

EXPORT TARGET EXCEEDED

The revised figures of export of cardamom during February 1978 is 190 M. T. valued at Rs. 3 27 crores (unit value Rs. 172 / - per kg.). As per the figures already received 146 M. T. worth Rs. 2.58 crores (unit value Rs. 177/- per kg.) have been exported during March 1978 against the anticipated export of 150 M. T. worth Rs. 2 40 crores. The total export during the financial year 1977-78 thus totalled to 2635 M. T. with an earning of Rs. 46.26 crores (unit value Rs. 175 / - per kg.). We expect figures for about 70 M. T. worth Rs 1.22 crores more during March 1978 anticipating the total export to exceed 2700 M T. and Rs. 47 crores during the financial year 1977-78. Thns the export earnings for 1977-78 will exceed the total earnings for 1977–78 will exceed the total earnings for the previous 3 years combined together.

ORIGIN OF AUCTIONS

The Auction system was born in Broeck Op Langedijk in Northern Holland on the 28th July 1887. On that day a vegetable grower with his boat loaded up with cauliflower drew along side the quay of the dock. The demand for his cauliflower was so big that the grower felt confused as he did not know to whom he should sell his produce. A sailor therefore advised him to sell it to the person offering the most money.

At that time the auction clock had not yet been thought of and sales were made by crossing the items off on a list as they were sold. The idea of the auction caught on and a few years later an auction sales federation was formed in Broeck Op Langedijk. Many other districts followed this example.

The last auction at which boats came in with their fragrant loads for sale in the auction room took place in 1974. The auction room at Broeck Op Langedijk is now being converted into a museum

(Source: International Fruit World)

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. M/s. Khoory Grocery, P. O. Box. No. 302, Abu Dhabi.

6. M/s. Khoory Stores, P. O. Box. No. 764, Abu Dhabi.

7. M/s. Mohd. Rasool Khoory and Sons., P. O Box No 126, Abu Dhabi.

8. M/s. Mohd. Sherif Fooladi. P. O. Box. No. 302, Abu Dhabi.

9 M/s. Nowais Cold Stores, P. O. Box.No.4292, Abu Dhabi.

10. M/s. Saifallah Mohd. Khoory and Sons, P. O. Box No. 165, Abu Dhabi.

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INDIAN MARKET PRICES

Centre Variety	Prices Rs/kg During January 1978	Prices Rs/kg During February 1978
Bodinayakanur		
Extra Bold	203.75	190.00
Bold	183.75	170.00
Superior Bulk	173.75	160.00
Bulk Grade I	163.75	150.00
Bulk Grade II	153.75	140.00
Shipment	122.50	110.00
Virudhunagar		
Bold	192.25	190.00
Bulk	151.25	130.00
Shipment	103.75	95.00
Seed	100.00	100.00
Sirsi	77.66—123.56	80.81 – 103.25
Saklespur		
Inferior	95.00—105.00	90.00—105.00
Middle	102.00—112.00	105.00—110.00
Rasi	112.00—120.00	110.00—118.00
Best Rasi	118.00—130.00	115.00—125.00
Jaradi	128.00—145.00	128.00—135.00
Selected	145.00—165.00	143.00—152.00
Seeds	108.00—117.00	—
Bombay		
White	NR	110.00—140.00
Soneri	NR	115.00 – 125.00
Mercara		
Coorg Green Extra Bold	NR	140.00—150.00
Coorg Green Bold	NR	115.00 - 125.00
Coorg Green	NR	110.00—125.00
Coorg FAQ	NR	90.00—100.00

Source: Director of Statistics, Madras.

Note: NR — No Reports.

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Sales and Prices at Cardamom Auctions

Centre	FEBRUARY 1978					FEBRUARY 1977				
	Date	Sales (kgs.)	Rate Rs. / kg. Max	Min.	Av.	Date	Sales (kgs.)	Rate Rs. / kg. Max.	Min.	Av.
Vandanmettu	4-2-78	28846	167.60	49.90	133.80	—	—	—	—	—
Udumbanchola	3-2-78	2763	140.00	75.10	121 40	—	—	—	—	—
Santhanpara	2-2-78	1421	135.60	67.10	110.50	—	—	—	—	—
	6-2-78	2215	142.20	56.20	110.41	—	—	—	—	—
	9-2-78	472	134.00	66.10	113.43	—	—	—	—	—
	13-2-78	1750	143.80	45.00	117.49	—	—	—	—	—
	16-2-78	1024	136.50	62.90	115.03	—	—	—	—	—
	20-2-78	733	132 00	32.00	106.31	—	—	—	—	—
	23-2-78	1163	136.50	48.00	103.30	—	—	—	—	—
Cochin	6-2-78	1162	150.00	90.10	108.77	—	—	—	—	—
	20-2-78	834	182.70	87.10	121.20	—	—	—	—	—
Kallar	18-2-78	5694	142.90	53.20	105.40	—	—	—	—	—
Pattiveeranpatty	5-2-78	2889	137.90	48 00	112.21	27-2-77	3412	176.60	42.00	155.03
	12-2-78	3337	150.50	90.00	109.95					
	19-2-78	4568	158.90	60.50	116.19					
	26-2-78	2591	138.50	64.50	99.24					
Mercara	10-2-78	405	135 00	85.00	115.00	—	—	—	—	—
	17-2-78	285	141.00	80.00	115.00					
Mangalore	20 2-78	70	115.00	60.00	107.99	28-2-77	215	164.50	139.00	156.00
	27-2-78	111	115.00	115.00	115.00					
Saklespur	1-2-78	548	146.50	74.10	110.90	15-2-77	267	168.00	138.00	150.54
	1-2-78	578	152.00	71.10	116.89	15-2-77	1550	149.50	136.00	140 80
	4-2-78	721	143.80	70.00	103.85	16-2-77	1333	175.00	116.00	133.05
	8-2-78	1208	140.00	79.00	109.50	17-2-77	5572	200.00	111.00	144.85
	8-2-78	597	143.90	90.50	114.77					
	9-2-78	4698	145.00	79.00	110.24	22-2-77	3197	191.00	113.00	143.40
	14-2-78	6424	150.00	50.00	103.93	23-2-77	2300	157.20	130.20	148.13
	15-2-78	1250	140.00	95 00	105.90	24-2-77	3247	193.20	137.70	146.90
	15-2-78	132	120.00	73.90	111.64	26-2-75	1859	192.00	15.00	151.95
	22-2-78	618	140.00	97.50	113.35					
	22-2-78	211	140.10	71.40	115.49					
	28-2-78	5382	155.50	60.00	110.35					
	28-2-78	950	138.40	99.00	106.12					
Sirsi	1-2-78	268	105.81	48.26	97.71	9-2-77	123	154.06	69.00	138.55
	15-2-78	218	101.81	53.26	94.32					

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Shilpi BOB 3A/72

NEWS AND NOTES

Sri Oommen Chandy, Minister for labour, Kerala, speaking at the inauguration of Board's educational stipend distribution held at St. George High School Kattappana on 18/2/78. S / Shri Purushothaman Nair, (Board Member), K. K. Devasia (Board member), K. G. Nayar, Secretary, Cardamom Board, V. T. Sabastian M. L. A., P. Gopala Krishnan Nair, Additional District Magistrate, Idukky, Thomas Joseph, M. L. A. etc can be seen.

Labour Minister Appreciates Board's Activities

Shri Oommen Chandy, Minister for Labour, Kerala here stated that a set of satisfied labourers can work wonders for any industry. The Minister was speaking on the occasion of the distribution of educational stipends from Cardamom Board to the children of cardamom estate workers of Kerala for 1977-78. In this connection, he also appreciated the labour welfare activities of the Cardamom Board. Educational stipends for 350 students amounting to Rs. 40,000/- were distributed at the function.

Shri p. Gopalakrishnan Nair, Additioal District Magistrate, Idukki presided over the function

Shri K.K. Devasia, Member, Cardamom Board in his speech stressed the need for co-operation between the Board and the Government in providing more schools and hospitals in the cardamom growing areas. S/Shri V.T. Sebastian, M.L.A. and Thomas Joseph, M L A. also spoke.

Shri K. G. Nayar, Secretary, Cardamom Board welcomed the gathering and T. D. John, Field Officer proposed a vote of thanks.

Monopoly on Foreign Trade in Algiers

According to a new law approved on January 8 by the National popular Assembly the State has

A view of the audience.

been given monopoly on foreign trade and all activities by agents and intermediaries have been prohibited in algeria. All contracts with foreign enterprises for imports or exports of goods,supplies or services can now be concluded only by the State, or by local authorities or by State Organisations. Thus individual Algerians have been prohibited from participating in a private capacity, in the preparation negotiation or execution of operations of foreign trade either on individual basis or through corporate body in which they may have shares, participation or interests.

India's Export Performance

India's exports during the first eight months of the current financial year amounted to Rs 34724.1 million, which is higher by 9.3 per cent as compared to the performance of the corresponding period of the previous year. According to a recent IMF survey, the total volume of the world trade will grow by only 5.4 per cent for 1977 as against 11 per cent during 1976. Viewed in this backdrop of world's export growth, India's achievements in this field indeed is significant.

This was said by Mr. Mohan Dharia, Union Minister for Commerce, Civil Supplies and Co-operation recently in New Delhi while inaugurating the twenty-second annual general meeting of the Engineering Export Promotion Council. The Minister also distributed EEPC awards for exports excellence to varicus enterprises.

Explaining the significance of India's export performance, Mr. Dharia said that in this year. due to the protectionist polices followed by developed countries, the exports of many of important products like iron ore and textiles had not been upto their potential Moreover, the growth of exports would have been still higher had it not been the policy of the new Government to minimise social costs he remarked.

The Minister said that in order to meet domestic needs, exports of various mass consumption essential items had been either stopped or severely curtailed. He informed the meeting that while exports of a few selected mass consumption items like sugar, groundnut extraction. HPS groundnut, vegetable oils, cement, fresh vegetables, rice and pulses had amounted to more than Rs· 5,000 million during 1976-77, their exports in the first six to seven months of the current year had been of the order of Rs. 1,000 million only. However. inspite of these deliberations, restrictions or restraints,the growth rate of exports in various sectors like engineering goods, gem and jewellery chemicals and allied products, plastics and linoleum, tea. coffee. tobacco, cashew kernels, spices and jute manufactures had been encouraging. The·Minister was confident that India's exports during the current financial year would cross Rs. 55,000 million mark.

The Minister expressed satisfaction that the exports of the engineering industry had increased four-fold in the space of four years from Rs. 1,410 million in 1972-73 to Rs. 5,520 million in 1976-77. He pointed out that in the current year engineering? goods could occupy the position of the top foreign exchange earner and expressed the hope that it would be possible to fulfil the target of Rs. 6,500 million of engineering exports for the current financial year.

Referring to the Council's suggestions regarding the need for continuing export assistance, the Minister said that the Alexander Committee had gone into various matters relating to import-export policies and procedures and the Government would soon finalise its views on the Committee's recommendations. He also expressed the hope that it would be possible to simplify the procedures regarding import-export to a considerable extent.

Break Through in Cardamom Oil Export

It is reported that cardamom oil has made a break through in the export front. It is also fetching remunerative prices conducive to the growth of the cardamom oil extraction industry — Rs. 2,400 to Rs. 2,800 per kg. Cardamom oil is mainly exported to U.S A., G.F.R., France and Switzerland by M/s. Synthite Industrial Chemicals Pvt. Ltd., Kadayiruppu P. O., Kolancherry, Cochin - 682 311 and M/s Dabur (Dr S K. Burman) Pvt. Ltd,. 142. Rash Behari Avenue Calcutta - 700 029.

Other Commodities:

COFFEE

RISING TREND OF COFFEE EXPORTS

India's export of coffee during the year 1976-77 increased to Rs. 1,140.50 million from Rs. 666.50 million during 1975-76 according to Directorate General of Commercial Intelligence and Statistics, Calcutta. The export of coffee witnessed consistent uptrend in the recent years. For instance, from Rs. 179.59 million during 1968-69, the coffee exports rose to Rs. 251.00 million in 1970-71, Rs. 329.30 million in 1972-73 and Rs. 513 55 million in 1974-75. During the first nine months of 1977-78 (April to December, 1977), the export outstripped the export performance during the entire preceding year. During the above period, the export rose to Rs. 1,876.40 million compared to Rs. 1,140.50 million during the full year of 1976 - 77

In terms of quantity, 47,522 tons were supplied abroad during 1976-77 compared to 59,386 tons in the preceding years. The quantum of coffee exported during the first nine months of 1977-78 at 143,519 tonnes compared to 47,522 tonnes during the full year of 1976-77, earning export realisation at Rs. 1,876.40 million compared to Rs. 1,140.50 million respectively, indicates the rise in the price of Indian coffee in the export markets. United Kingdom, Czechoslovakia, Yugoslavia, West Germany, UAE and U.S.A. are the important buyers of Indian coffee.

The production of coffee in India has also been increasing

Statement About Ownership And Other Particulars About Newspaper "CARDAMOM"

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2.	Periodicity of publication	:	Bi - monthly
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6	Name and address of individuals who own the newspaper and partners or share-holders holding more than one per cent of the total capital	:	Cardamom Board

I, K. G NAYAR, hereby declare that the particulars given above are true to the best of my knowledge and belief

Sd/-

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over the years. During 1977-78, the production was estimated at 110,000 tons while in the previous year it was 102,500 tons. The production in fact rose to this level from hardly 73,430 tonnes in the year 1968-69 and 86,388 tons in 1973-74. India produces mainly two varieties of coffee, internationally known as Arabica and Robusta. In the total production, the output of Arabica coffee is more as compared to the Robusta variety For instance, during 1977-78, the production of Arabica variety is estimated at 65,000 tonnes compared to 45,000 tons of Robusta variety, while in the preceding year the respective shares of these varieties were at 65,000 tons and 37,500 tons

The total area under coffee cultivation was 171,535 hectaree during 1977-78. Karnataka State is the largest cultivator of coffee having the largest area under this crop at 101,676 hectares followed by Kerala State at 40 502 hectares

REGISTRATION OF ESTATES

The Government of Tamilnadu have extended the time limit for registration of cardamom estates in the State till 28th February 1979. Those who have not yet registered their cardamom estates are requested to utilise this opportunity to register their estates with the registering officers concerned. Unregistered planters may apply for registration in Form 'A (triplicate) to the District Collector with a paid chalan for Rs. 5/-. The head of account for remitting the money in the treasury is "029 LR(h) other receipts-12 other receipts (ii) Misc. - receipts".

PLEA TO SAVE SMALL GROWERS

Following is an excerpt from the speech of Shri George Mathew M. P. delivered in the Parliament on the 6th April 1978.

" .... As far as cardamom is concerned, it is not like other crops. Some of the State Governments, mainly Southern States have levied sales tax on the sale of cardamom. But we are not saying why should it be levied. That is the business of State Government. We should not interfere in their affairs. But should it be collected from the growers or from the first buyer? That is the main thing. For cardamom there are large number of small growers who are having one acre or two acres or three acres. There is harassment for them. You can tell the State Governments to collect it from other people; let them collect it from other people and not from the small growers. Ninety per cent of cardamom sold goes to auctions. The sales tax authorities should not harass the small growers.

Another important thing I want to stress is that, like the Tobacco Board which has its headquarters in Guntur — they have located the headquarters where tobacco is grown — cardamom has no permanent headquarters. You have provided Rs 2 lakhs or something like that, which is a token amount, but I want to say it is now in Ernakulam; why can't you shift it to the real cardamom growing area Vandanmettu or Kattappana in Idukki District? Why don't you ask your officers to do that?

In this regard I would like to congratulate the Chairman of the Board for the way in which he has helped the growth of the Industry. He is doing fine work and the whole section of cardamom industry appreciates the work he is doing.

Shri George Mathew also urged the Government to help the rubber growers. He asked the Government to subsidise the export of rubber and help the growers in order to tide over the glut in rubber production. Regarding tea, he requested the Government to formulate a policy to increase the production of tea. He complained that the expansion of area under tea has been very slow — only 89.87 hectares were newly brought under tea during last year even though the target was 248.24 hectares.

India-Largest Producer of Mango

Mango is the fourth most important species in the world fruit production after citrus, banana and apple. Its annual production exceeds the mark of 14 million tons. India counts for the production of over 7 million tons of mangoes.

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CULTIVATION OPERATIONS

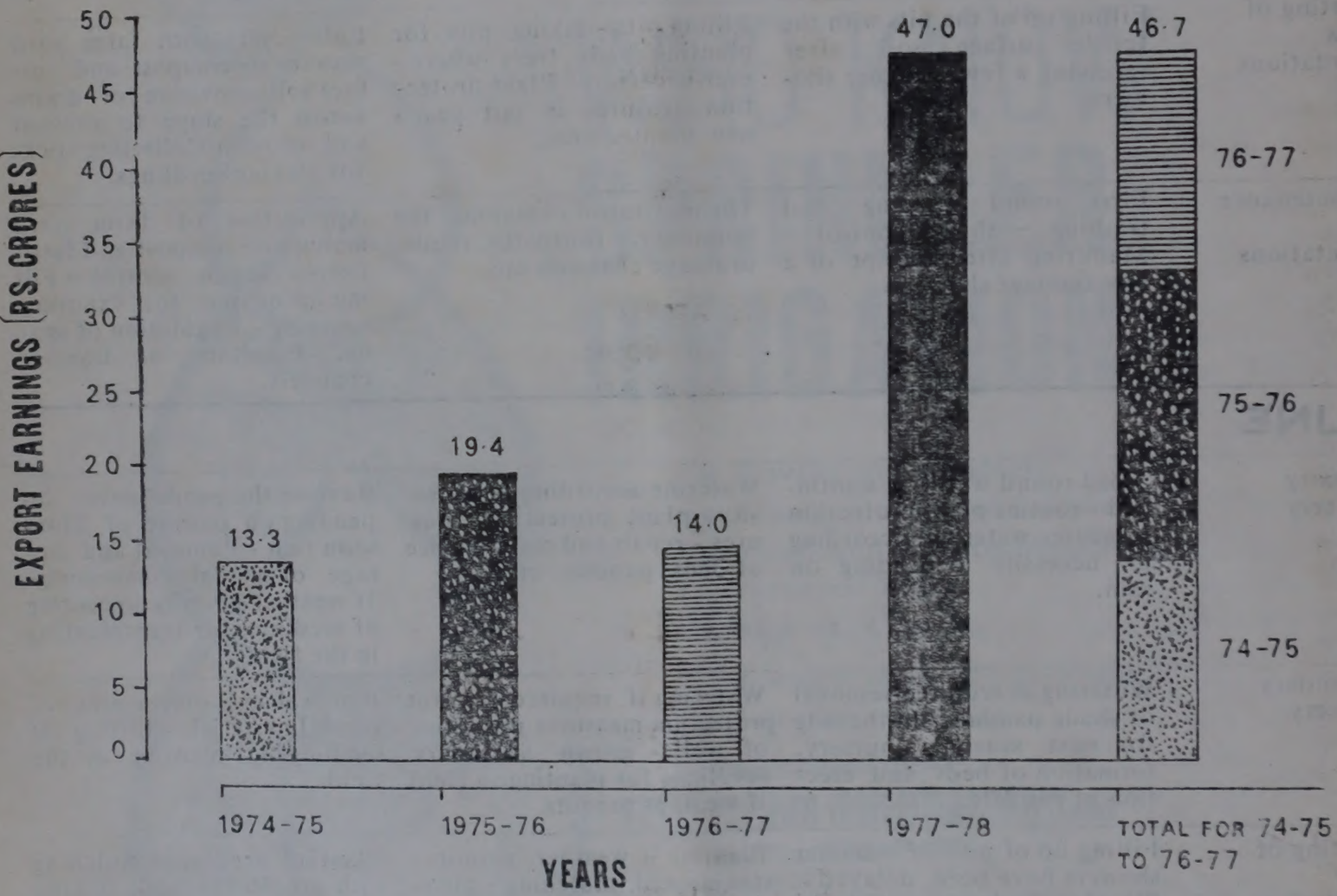
MAY

	South West Monsoon areas (Kerala – Tamilnadu)	North East Monsoon areas (Tamilnadu)	South West Monsoon areas (Karnataka)
Primary Nursery	Raking of soil in the interspaces between rows continued - third round weeding- Routine watering and plant protection measures.	Routine waterine and maintenance – Plant protection measures.	Regular watering, plant protection and weeding - provision and cleaning of drainage-channels
Secondary Nursery	Watering according to necessity. Third round digging in the next season's nursery site, if sufficient rains are received. Collection of pandal materials.	Watering and routine upkeep	Routine waterng, plant protection and weeding – If stem borer infestation is noticed, dead shoots to be collected and burnt.
Starting of New Plantations	Filling up of the pits with the fertile surface soil, after receiving a few summer showers.	Filling pits - taking pits for planting shade trees where-ever neceseary. Plant protection measures in last year's new planted ares.	Filling pits with farm yard manure or compost and surface soil -provision of drains across the slope to prevent soil erosion-Collecting sticks for staking seedlings.
Maintenance Of Plantations	First round weeding and trashing – thrips control – Manuring after receipt of a few summer showers.	Thrips control - cleaning the boundary, footpaths, roads, drainage channels etc.	Application of farm yard manure or compost and fertilizers - Thrips control – Filling up of pits for vancancy covering - Regulation of shade. Provision of drainage channels.

JUNE

Primary Nursery	Third round weeding continued - routine plant protection measures-watering, according to necessity depending on rain.	Watering according to necessity - plant protection measures - repair and maintenance of beds, pandals, etc.	Remove the pandal cover depending on receipt of Monsoou rain - Removal and storage of pandal framework - If weather permits uprooting af seedlings for transplanting in the field.
Secondary Nursery	Watering as required-removal of shade pandals - In the site for next season's nursery, formation of beds and erection of pandals.	Watering if required - plant protection measures-uprooting of well - grown secondary seedlings for planting in field if weather permits.	Removal and presesvation of pandal materials - Lifting of seedlings for planting in the field.
Starting of New Plantations	Filling up of pits if summer showers have been delayed - Planting shade trees if shade is not adequate.	Planting if weather permits - staking and mulching - planting shade trees where necessary.	Planting seedlings- mulching with dry leaves and staking the plants.
Maintenance of Plantations	First round weeding and trashing continued and completed - thrips control, planting shade trees where necessary - manuring if summer showers are late.	First round weeding-mulching and earthing up -Thrips control.	Filling up of vacancies preferably with two year old plants - mulching and staking.

Cardamom Exports: Triple rise in earnings



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